

UNITED STATES PATENT AND TRADEMARK OFFICE  
**CERTIFICATE OF CORRECTION**

PATENT NO. : 7,928,224 B2  
APPLICATION NO. : 10/587467  
DATED : April 19, 2011  
INVENTOR(S) : Maruoka

Page 1 of 2

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

Column 40, Delete Lines 63-37 “and n is an integer from 1 to 12);

(xii)  $-(CH_2)_n-S-R^{12}$  (where  $R^{12}$  is a group selected from the group consisting of:

(1) a hydrogen atom;

(2) a  $C_1$  to  $C_4$  alkyl group that may be branched;”

Column 41, Delete Lines 1-46 “(3) an aryl group, wherein the aryl group may be substituted with at least one group selected from the group consisting of:

a  $C_1$  to  $C_4$  alkyl group that may be branched,

a  $C_1$  to  $C_5$  alkoxy group that may be branched,

an aryl group that may be substituted with a  $C_1$  to  $C_4$  alkyl group that may be branched, a cyano group,  $-NR^{20}R^{21}$  (where  $R^{20}$  and  $R^{21}$  are each independently a hydrogen atom or a  $C_1$  to  $C_4$  alkyl group), a nitro group, a carbamoyl group, an N-( $C_1$  to  $C_4$  alkyl)carbamoyl group, an N,N-di( $C_1$  to  $C_4$  alkyl)carbamoyl group, or  $-NHCOR^0$  (where  $R^0$  is a  $C_1$  to  $C_4$  alkyl group that may be branched),

a cyano group,

$-NR^{20}R^{21}$  (where  $R^{20}$  and  $R^{21}$  are each independently a hydrogen atom or a  $C_1$  to  $C_4$  alkyl group),

a nitro group,

a carbamoyl group,

an N-( $C_1$  to  $C_4$  alkyl)carbamoyl group,

an N,N-di( $C_1$  to  $C_4$  alkyl)carbamoyl group,

$-NHCOR^0$  (where  $R^0$  is a  $C_1$  to  $C_4$  alkyl group that may be branched), and

a halogen atom; and

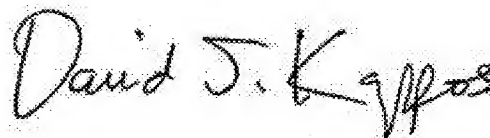
(4) a heteroaryl group, wherein the heteroaryl group may be substituted with at least one group selected from the group consisting of:

a  $C_1$  to  $C_4$  alkyl group that may be branched,

a  $C_1$  to  $C_6$  alkoxy group that may be branched,

This certificate supersedes the Certificate of Correction issued October 4, 2011.

Signed and Sealed this  
Tenth Day of January, 2012



David J. Kappos  
Director of the United States Patent and Trademark Office

**U.S. Pat. No. 7,928,224 B2**

an aryl group that may be substituted with a C<sub>1</sub> to C<sub>4</sub> alkyl group that may be branched, a cyano group, -NR<sup>20</sup>R<sup>21</sup> (where R<sup>20</sup> and R<sup>21</sup> are each independently a hydrogen atom or a C<sub>1</sub> to C<sub>4</sub> alkyl group), a nitro group, a carbamoyl group, an N-(C<sub>1</sub> to C<sub>4</sub> alkyl)carbamoyl group, an N,N-di(C<sub>1</sub> to C<sub>4</sub> alkyl)carbamoyl group, or -NHCOR<sup>0</sup> (where R<sup>0</sup> is a C<sub>1</sub> to C<sub>4</sub> alkyl group that may be branched),

a cyano group,

-NR<sup>20</sup>R<sup>21</sup> (where R<sup>20</sup> and R<sup>21</sup> are each independently a hydrogen atom or a C<sub>1</sub> to C<sub>4</sub> alkyl group),

a nitro group,

a carbamoyl group,

an N-(C<sub>1</sub> to C<sub>4</sub> alkyl)carbamoyl group,

an N,N-di(C<sub>1</sub> to C<sub>4</sub> alkyl)carbamoyl group,

-NHCOR<sup>0</sup> (where R<sup>0</sup> is a C<sub>1</sub> to C<sub>4</sub> alkyl group that may be branched), and

a halogen atom;”

Column 97, Line 49, Delete “Pd(OAc)<sub>2</sub>” and replace with “Pd(PAc)<sub>2</sub>”

Column 152, Line 14, Delete “17%ee” and replace with “-17%ee”

Column 173, Line 42, Delete “K” so Line 42 reads “-NR<sup>20</sup>R<sup>21</sup> (where R<sup>20</sup> and R<sup>21</sup> are each independently a”

Column 173, Line 51, Delete “000NR<sup>10</sup>re<sup>rsil</sup> (where R<sup>10</sup>” and replace with “OCONR<sup>10</sup>R<sup>11</sup> (where R<sup>10</sup>,”

Column 177, Line 59, Delete “K” so Line 59 reads “-NR<sup>20</sup>R<sup>21</sup> (where R<sup>20</sup> and R<sup>21</sup> are each indepen-”

Column 181, Line 29, Delete “R<sup>1</sup>” so Line 29 reads “and x is an integer from 1 to 12); or R<sup>7</sup> and R<sup>8</sup> are taken”